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INL wins two more R & D 100 Awards

IDAHO FALLS – Idaho National Laboratory researchers earned R&D 100 Awards for two of three nominated technologies during the 2011 international competition hosted by R&D Magazine.

The winning INL technologies offered two firsts in research – the capability of directly measuring the impedance in an operating battery and a highly effective chemical-foam-clay decontamination process tailored to specific radiological and metal contaminants.

"INL's world-class research is showcased by these two winning technologies," said David Hill, INL deputy director for Science & Technology. "Our dedicated and talented researchers demonstrated their skill and innovation in earning R&D 100 Awards this year. We are very proud of them and the research conducted at the laboratory."

INL nominated three technologies for the 2011 R&D 100 competition and with today's announcement has now won a total of 46 R&D 100 Awards since 1986.

"I want to congratulate this year's R&D 100 award winners. The Department of Energy's national laboratories [and sites] are at the forefront of innovation, and it is gratifying to see their work recognized once again," said Energy Secretary Steven Chu. "The cutting-edge research and development done in our national labs [and facilities] is helping to meet our energy challenges, strengthen our national security and enhance our economic competitiveness."

This year's winning technologies include:

Impedance Measurement Box (IMB): Batteries and other energy storage devices now are more important to consumers, industries and the military, creating a demand for accurate battery assessment. Until now, only passive monitoring of voltage and current, and temperature was used.

A collaborative research team from Idaho National Laboratory, academia, and industry developed IMB to assess battery health with a well-engineered breakthrough that directly measures impedance during battery operation, an engineering feat never accomplished before. The IMB diagnostic tool uses proprietary algorithms and hardware to input a pre-determined, benign signal; capture a response; process the data; analyze it; and display results. For more information and a video visit <http://www.inl.gov/rd100/2011/impedance-measurement-box/>

Rad-Release Chemical Decontamination Technology: Researchers at Idaho National Laboratory have developed a viscous foam that removes radioactive and concentrated metals from various surfaces. The technology allows contaminated buildings and equipment to become usable, is non-destructive, reduces workers' exposure to contaminated materials, and minimizes waste costs and volume.

Tailored to remove specific radiological and metal contaminants on a wide variety of substrates, the affordable, patented chemical-foam-clay is also highly effective with up to a 99 percent removal rate. The technology utilizes a chemical process that involves topical application of the foam. This application can remove 50 percent of contamination in just two hours. If necessary, a second, more saturated clay substance can be applied to the surface for six weeks and will remove up to 95 percent of contamination. For more information and a video visit <http://www.inl.gov/rd100/2011/rad-release/>.

Widely recognized as the "Oscars of Innovation," the annual R&D 100 Awards identify the 100 most significant, newly introduced research and development advances. Winning one of the R&D 100 Awards provides a mark of excellence known to industry, government, and academia as proof that the product is one of the most innovative ideas of the year, nationally and internationally.

INL is one of the DOE's 10 multiprogram national laboratories. The laboratory performs work in each of the strategic goal areas of DOE: energy, national security, science and environment. INL is the nation's leading center for nuclear energy research and development. Day-to-day management and operation of the laboratory is the responsibility of Battelle Energy Alliance.

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